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A CASE OF INTRA-PERITONEAL HÆMATOCELE CURED BY FREE INCISION AND DRAINAGE.

BY JOHN HOMANS, M. D.,

Surgeon to the Carney Hospital and to the Children's Hospital.

Mrs. G., of Marlboro', Mass., consulted me on the 23d of April last at the suggestion of Dr. D. H. Hayden; she was thirty-eight years of age, rather thin and pale. Dr. Hayden examined her with me; we found a tumor six or seven inches in diameter in the left hypogastric region, roundish in shape, not tender on pressure, movable beneath the abdominal integuments, quite elastic but not distinctly fluctuating, and descending into the pelvis. The uterus was normal in size and could be moved towards the right but not towards the left; the functions of the bladder were naturally performed. The patient's account of the origin and progress of the tumor was as follows: Seven weeks since, when at stool, she was suddenly attacked with severe pain in the left hypochondriac and iliac regions, and felt (as she expressed it) "a rush as if something fell from beneath her left ribs downwards." With difficulty she walked to her home, about an eighth of a mile distant. (This attack was two weeks after a catamenial period.) On reaching home she felt chilly, and vomited; the pain also increased so that a physician was called in the night. The next day she noticed a tumor in the region above mentioned, the size of an egg, and very tender. Attacks of vomiting continued for four days, and her confinement to bed lasted ten days, at the end of which time the tumor was as large as an orange and still very tender. She got up, and a few days later had another attack of chills and vomiting, from which she recovered and began to gain a little strength.

I decided to puncture the tumor with a perforated needle, and as I was not willing to do this and then send the woman from Boston to Marlboro', I advised her to enter the Carney Hospital. After etherization at the hospital, the needle of an aspirator was thrust into the tumor through the abdominal wall, and about seven ounces of dark reddish-brown fluid were drawn off; another puncture was made into the tumor from the vagina, and a few drops of a similar fluid were obtained. On microscopical examination the fluid was found to contain many vibrios and many blood globules, some normal in shape and others more or less shrunken; the fluid was inodorous.

The diagnosis was now much clearer; we had evidently a tumor to deal with of the same character as a retro-uterine hæmatocele; there had been a rupture of a blood-vessel, probably in the broad ligament between the folds of the peritoneum; the progress of the blood downward and backward had been limited by the inflammatory action which occurred during the attacks of chilliness and vomiting, but for some reason the induration had not extended to the peritoneum above the mass of blood, and this increasing had pushed the upper layer of peritoneum before it until it had emerged from the pelvis and reached the size mentioned when the patient was first seen by me. It was extraordinary that the blood had remained fluid during this long period.

I felt sure, from previous experience, that suppuration in the sac would follow the puncture. Three days later the tumor had increased in size and was very hard; there was also considerable pain and increase of the temperature and pulse. The patient was again etherized, and tapped with a common trocar through the vagina to the left of the os uteri: about two pints of dark-brown, bloody, offensive fluid ran out. On the evening of the 30th (four days later) the pain had become excess ve and the tumor had regained its former size. Dr. Hayden assisted me in again etherizing the patient, and I thrust a long trocar into the swelling from the vagina; the point chosen was about an inch to the left of the os uteri; the opening was enlarged with the knife until the finger could be passed within the tumor; about two pints of the same sort of fluid was evacuated. A large elastic tube three eighths of an inch in diameter was then passed through the opening in the vaginal roof, a length of three and a half inches, and was left in the pelvic cavity, the outer end of the tube being secured to a bandage around the hips and perinæum. Directions were given to wash out the sac daily with warm water. There was no pain after this operation, and in four days the tube was removed; the discharge gradually became healthy and the induration disappeared. The patient gained in flesh, strength, and appetite, and on the 23d of May returned home.

On the 17th of June I saw her again; the sinus had almost closed and the discharge had become very slight, serous, and inoffensive. She has experienced no further trouble.

ON IRREDUCIBLE HERNIA.[1]

BY W. C. B. FIFIELD, M. D.,
Surgeon to the Boston City Hospital.

On taking my service at the hospital in August last, a larger number of cases of hernia fell both to my colleague, Dr. G. W. Gay, and to myself than had been seen during my services for the four years previous. Some of these cases will serve to illustrate the views heretofore set forth.

Case I. — Jeremiah H., aged seventy years, entered the hospital with a left inguinal hernia. He had had a hernia since 1842, which had frequently come down, but he had always been able to reduce it himself, with one exception. On Thursday, September 10th, whilst coughing violently, the hernia descended. He attempted to return it, but without success. He suffered greatly all that day, and until his admission. He had tried at various times to reduce the rupture, but always unsuccessfully. When he came to the hospital, his pain was not intense; he had neither vomiting nor hiccoughs, but said that he had vomited several times before entrance; he had had no movement of the bowels since the hernia descended.

The patient was of low stature, and very fat. In the left groin was a swelling of enormous size, extending from above Poupart's ligament to the bottom of the scrotum. The skin was neither red nor tender. There was no pain on pressure. The pulse and temperature were normal. At noon, September 14th, Dr. Fifield, after a very short and gentle attempt at taxis, pronounced the case to be a non-strangulated, irreducible hernia. He ordered a bladder filled with ice to be applied to the swelling, separated from it by a fold of flannel; the foot of bedstead to be elevated by the lifts; the patient to have at once a pill of a grain of opium, to be repeated *pro re natâ*. Low diet.

September 15th. The patient has slept well; some pain in hernia on coughing.

September 16th. Tumor reduced in size. There is still some pain on coughing. Ordered one grain of opium, in pill, three times daily. An injection, ordered last night, has not operated well. The patient vomited this morning from coughing.

September 16th. An ounce of castor oil prescribed.

September 18th. The patient has had a great discharge of fæces; is very comfortable, and without pain.

September 19th. Omit pills; one drachm of compound licorice powder to be taken at bedtime.

September 22d. The patient coughs greatly in the night; cough-mixture ordered.

September 28th. This morning the patient without difficulty reduced his hernia, which had been for some days diminishing in size. A truss was applied.

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[1] Concluded from page 149.

October 2d. The patient walked about the ward.

October 5th. Discharged, well.

This case may profitably be contrasted with the following, which entered the hospital on the same day and at about the same hour.

Case II. — Andrew B., a fisherman, aged forty-four, was brought to the hospital on Monday, September 14, 1874. The patient said that on the Saturday night previous, when two hundred miles at sea, he felt a severe pain in the lower part of his abdomen, and noticed the hernia and tried to put it back, but without success. He slept none that night; he vomited frequently. Sunday morning he applied hot flannels to the rupture. The pain increased, the rupture was red and more swollen; there was constant vomiting. The patient arrived in port at four o'clock this morning.

In the left groin is a large oblique swelling, red, tender to the touch, reaching from the ring to the bottom of the scrotum. Dr. Fifield was sent for, and arrived at about noon. He pronounced it to be probably a strangulated inguinal hernia, and expressed the opinion that an operation would become imperative. He nevertheless decided to wait, as the man was not at this time vomiting, or in very severe pain. He ordered an ice-bladder to be placed over the hernia, one grain of opium to be taken immediately, and to be continued *pro re natâ;* the foot of the bedstead to be raised. He desired to be sent for should vomiting return, and especially if hiccough were present. During the afternoon the patient was very restless; he vomited and had hiccough. Dr. Fifield was sent for at five o'clock. The patient was etherized, and taxis was gently tried for a few minutes only. The hernia was punctured, and Potain's aspirator tried; only blood and serum were withdrawn. An incision was then made and the sac was opened; there was no fluid in the sac. The intestine was much distended; it was dark red in color, with patches of much darker tint, suggestive of approaching gangrene. The intestine was punctured in several places with a small needle; only a little flatus escaped. On pulling down the sac, a tight band of fibre, feeling like a silk thread, was found girting the upper part of the intestine; this was divided with scissors, the finger depressing and protecting the gut. Still the rupture could not be reduced, until it occurred to the operator that in trying to reduce the gut by pressure on the upper fold of it, he was acting under the great disadvantage of forcing against the external ring. He then turned his attention to the lower fold, and the reduction occurred at a touch. According to a theory recently broached it must have been the difference between an afferent and an efferent end of intestine which made that easy which before had been difficult, but the reasoning stated above was that which suggested itself. Although no operation from the bowels was permitted for several days, a copious motion took place spontaneously. And on September 28th the patient was fitted with a truss.

October 8th. Discharged, well.

In these two men there was the difference between symptoms of strangulation and *no* symptoms. The first man could have safely remained any length of time without operation. The hernia was sure to go back if he was left in bed long enough, and his fat reduced by low diet. Herniæ which have been irreducible for years will return if treated in this way.

Case III. — Patrick O'C., aged seventy, was sent to the hospital September 19, 1874, by Dr. Fifield, who had seen him in consultation. The hernia was of the oblique inguinal variety, and had existed twenty years; the patient had always been able to reduce it until the present time. The swelling was large and reddened; the abdomen was somewhat tender; the patient had vomited; taxis had been faithfully tried by his attending physician.

Dr. Fifield ordered the ice-bag to be applied to the hernia. A grain of opium *pro re natâ* was prescribed; low diet; the foot of the bedstead was elevated. At evening the patient complained of pain in the abdomen; he had neither vomited nor hiccoughed; he passed wind; the rupture had diminished in size.

September 20th. The patient vomited this morning at five o'clock; he had no pain. At his visit, Dr. Fifield tried taxis gently without result; but as he left, a loud grunting of intense satisfaction was heard from the patient, who had reduced his hernia himself.

September 21st. The bowels freely moved.

September 24th. The patient was fitted with a truss, and discharged, well.

Here again, there were *no symptoms* to warrant an herniotomy.

Case IV. — Adolph B., a printer, with a right inguinal hernia, entered the hospital November 16, 1874. The patient had had hernia for some time, but it had never troubled him until this date, when, at noon, it came down and he was unable to return it. He came from Worcester, arriving at hospital at six o'clock P. M.

The hernia was large, not very tense, exceedingly tender and painful The patient was put in bed, and a grain of opium was given him; he will not keep the ice-bag on; he was seen at ten o'clock P. M. by Dr. Fifield, who ordered large warm poultices to the hernia, the opium pill to be repeated in an hour if need be; bedstead elevated.

November 17th. The hernia has disappeared during the night.

The next case is a very instructive one in many respects.

Case V. — Bridget C., a washerwoman, aged forty-eight, entered the hospital Monday evening, November 9, 1874. On the Saturday previous, November 7th, the patient was seized with abdominal pain, accompanied with vomiting; Sunday brought no relief; she had had no passage from the bowels for several days; she took half an ounce of castor oil, but vomited it immediately. As she was growing worse, she was sent to the hospital by Dr. McDonald at half past four o'clock. Dr. Fifield was sent for, and found two swellings, one in the right femoral region, one in the left. The one on the right was evidently a hernia, probably intestine; yet it was not strangulated, for it played in and out of the femoral ring with the respiration. The one on the left was larger, harder, tender to touch, dull on percussion, and irreducible. Dr. Fifield did not deem an operation imperative, for the reason that the diagnosis could not be clearly established. The tumor he thought to be either an enlarged gland or a small omental hernia, and insufficient by itself to cause such symptoms as were represented by the patient. He was inclined to believe that they resulted from some gastric or hepatic derangement. He ordered an injection of warm water to remove the fæces from the rectum; after this an injection of a drachm of laudanum in starch.

November 10th. The patient is comfortable; she has had no vomiting, and slept well. The injection of laudanum was ordered repeated morning and night.

November 13th. Plentiful evacuation of bowels; the patient was in some pain this morning, and through the day; she vomited pretty constantly; the tumor in the left groin remained unchanged, except that it was more tender. At six o'clock P. M., Dr. Fifield, who happened to be at the hospital, deemed it advisable to put the patient under ether and cut down to the tumor, and this was accordingly done. No sac or intestine was discoverable; on dividing the tumor it was judged impossible to determine its exact character, since in some parts it resembled gland-tissue, in others omentum. Passing his finger above the tumor, Dr. Fifield was enabled to say that a rounded, cord-like continuation of it seemed to pass into the abdomen. The wound was closed, and the patient put to bed.

November 14th. All vomiting has ceased.

The patient remained in the hospital several weeks, but although she had constipation and occasional vomitings, they evidently had no connection with any hernia, and she returned home very comfortable indeed.

What was this tumor? Allow me before answering the question to quote a case reported by Mr. Stokes, in the *Dublin Quarterly Journal of Medicine and Surgery* for October, 1874: "Jane L., aged thirty-five, was admitted into Richmond Hospital under my care on April 20, 1871, suffering from the usual symptoms of strangulated hernia. She stated that three days before her admission she received a kick in the groin, and that it was followed the next day by a tumor which was somewhat larger on admission than when she first observed it. All the symptoms of strangulated hernia were present. There was vomiting and continual retching, constipation, great irritability of the stomach, and abdominal tenderness, and in the situation of the femoral ring there was a painful globular tumor which had all the external appearances of femoral hernia. In truth, at first sight no one would have questioned that such was the nature of the case, especially when the symptoms which accompanied it were considered. The only thing that made us entertain any doubt as to the nature of the case was the history the woman gave, namely, that it came on after the injury she described. As a proof of the extreme difficulty of diagnosis in this case, I may mention that my late eminent colleague, Professor R. W. Smith, universally and justly allowed to be a great master in surgical diagnosis, was of the opinion that it was a strangulated hernia. Accordingly I determined to cut down on the tumor, and, if it proved to be a strangulated hernia, to deal with it in the usual way. I made the usual incisions and in a short time came down on what was neither more nor less than a large glundular tumor in a state of great inflammation. I determined to excise the tumor. This being done without any difficulty, the symptoms of strangulated hernia, strange to say, subsided immediately. The wound healed promptly and in a few days the woman returned home perfectly well. This case," says Mr. Stokes, "must, I think, be considered of great interest and importance, and shows that the symptoms of strangulated hernia may be produced by other conditions unconnected with hernia."

A strange freak of fortune has within a short time put into my hands the body of a woman apparently about twenty-five years of age, who had died of phthisis. After making some experiments on the right femoral region to determine the exact points of stricture in femoral hernia, I rather idly set about making a formal dissection of the left, intending to display all the points of the finer anatomy. To my very great surprise I found a round, semi-solid tumor occupying the crural ring, passing just beyond the falciform border of the iliac fascia, and just a little pressed by it. Opening the abdomen I found a long slender rope of omentum passing out of the crural ring, and having a complete sac, forming beyond the ring the tumor I had found. The rope of omentum had within the cavity of the peritoneum so pulled on the transverse colon that the latter had descended towards it, allowing plenty of slack to the rope. The pulling of the rope had caused the colon so to change its position that the transverse colon lay at or about the level of the umbilicus; the descending colon had sagged over towards the right, concealing the rope, which appeared to pass behind it. When this was brought up into position it was seen that the rope of omentum made a straight descent from the arch of the colon to the crural ring. Cutting upon the tumor (which was of the size of an American shagbark, or a very small English walnut), the omentum was seen to be perfectly adherent to the sac except at its lower part, where a little cavity existed. So adherent was it that a very tedious bit of work must have been done with a director to have cleared the connection. Before I cut into it the sac had a white color and resembled fascia. The sac could easily be dissected up from its bed on the pubic portion of the fascia lata. The saphenous vein was pushed outward. Internally the omentum showed no signs of compression, its blood-vessels appearing clear and distinct. Under the sac lay a small lymphatic gland. In a case like this in life, I hold that it would have been well-nigh impossible to have recognized whether one had to deal with a hernia or a gland. During life I do not think that the existence of a sac could have been detected, whilst a little blood-staining would have prevented any one, however skilled or experienced, from recognizing the appearances of omentum. If a gland should *overlie* the hernia instead of *underlying* it, as in this case, we should have a double chance of error, by confounding an omental hernia with an inflamed painful gland, as the cut would have showed the texture of gland as well as that of omentum. I believe that this post-mortem case was the double of the one given above as occurring to myself. From the adherence of the sac to the hernia it would obviously have been impossible to reduce the hernia without reducing it *en masse*. Now this could have been easily done after dividing the edge of the fascia. The case also shows the danger of cutting off such a gland or omentum, for we have only to suppose the sac non-adherent, and we shall have an open hole leading directly to the cavity of the peritoneum. Again, in a hernia of this sort, it was easy to see how an intestinal hernia could lie behind this mass of omentum, or above or within it, and suffer constriction without its being discoverable at operation. Nay, one might even have returned it *en bloc* without having opened the sac, because such sac was adherent to the omental mass. Two rules of practice may be deduced from these statements, namely, first, not to cut off doubtful masses which seem glandular or omental, yet cannot be certainly determined to belong to either class; and secondly, to carefully divide such masses lest they lodge intestine, and to reduce them only after the highest point has been searched for such enterocele.

The following case was probably one of omental hernia with intestine within or above it, probably the latter.

CASE VI. — Mary C., aged sixty-five, was admitted to the Boston City Hospital September 28, 1874. Five days previously, whilst visiting at Dorchester, she was taken with severe diarrhœa and vomiting; the latter had continued to the time of her admission. The diarrhœa suddenly ceased on September 25th. The patient had severe pain in the lower part of the abdomen at the same time. On this day (the 25th) she noticed a swelling in the right groin, red and tender to the touch. She was first seen on September 27th by a physician, who attempted taxis twice, but unsuccessfully; he was positive that he felt gurgling. The patient had had no stool since the diarrhœa ceased; laxative injections had been given in vain. The night before her entrance to the hospital a starch and laudanum injection was given, and after this she did not have so much pain.

September 28th. The patient came to hospital at about eleven o'clock A. M. Dr. Fifield, being at the hospital, saw her at once. On examination, a small round tumor was discovered, three inches wide, below Poupart's ligament, red and tense, painful on pressure. Taxis was gently tried, but without success. Dr. Fifield then cut down on the tumor, opened a sac from which no fluid escaped, but exposed omentum of a reddish color, and only slightly congested. A band of fibres being divided, and the patient's knee flexed, the tumor disappeared almost immediately. Evening. The patient has had severe pain in groin since the operation. She vomits frequently; retains no food or drinks. Two grains of calomel were given on the tongue every two hours. The face was pinched and dull. Half an ounce of champagne was given every hour.

September 29th. The patient still vomits; to have a pill of calomel and opium every sixth hour. Pulse 114, irregular.

September 30th. Patient has slept at intervals. She has pain in the stomach, with rumbling of gas in bowels; passes no wind or fæces. Fæcal matter being felt in the rectum an injection of warm sweet oil was ordered to be given, followed by a pint of warm water, through a long rectal tube. No movement of bowels.

October 1st. Still no movement of bowels. Medicines continued.

October 2d. Two operations from bowels. No vomiting. Wound discharges freely of oily matter. Patient has no pain. May have an ounce of champagne three times daily. Diet, chicken-broth, milk, and lime-water.

October 3d. Patient unable to sleep during night from pain in groin; has had several loose discharges. Wound now discharges freely of yellow matter, like fæces, and gas. Evening. Patient slept the greater part of the afternoon after taking one grain of opium; she had four loose dejections from bowels; she takes food freely; there is no vomiting; there is some pain about incision, but none in abdomen. Wound still discharges greenish-yellow stringy matter, thought to be the sloughing omentum.

October 4th. Patient slept well; she had no operation from the bowels.

October 5th. The opening in groin discharged enormously; the bed is soaked with this yellow, chyme-like matter, which escapes below dressings.

October 6th. The patient spent a miserable night; the bed and clothing are covered with discharge; no passage from the bowels; odor from wound horrible; bubbles of gas constantly arise from wound, which appears to be sloughing. This afternoon her friends removed her from hospital contrary to advice, and we learned that she soon after died. I now regret that when the symptoms of strangulation persisted I did not cut down from above Poupart's ligament and search for constricted intestine there.

A CASE OF FOREIGN BODY IN THE BRONCHUS.

BY T. WOOLVERTON, M. D., SURG. U. S. N.

Thomas N., aged fifty-seven, quartermaster of the U. S. S. Ohio, stationed at Boston, a broken old man, fell from his hammock to the deck, a distance of five feet, on the evening of January 11, 1875, while drunk, sustaining a severe contusion of the left shoulder and scapular region.

On the afternoon of January 15th, he ejected, before the apothecary of the ship, during a paroxysm of violent suffocative cough, a piece of ordinary clay pipe-stem three fourths of an inch long, with about a drachm of florid, unmixed blood. The presence of a foreign body in the bronchus had not been suspected. Upon inquiry it was learned from one of the man's shipmates, who had witnessed the accident, that he had had a pipe in his mouth at the time; it was picked up on deck the next morning.

Immediately after his fall the patient had difficulty of breathing for fifteen or twenty minutes, and although very drunk he screamed with pain and put his hand over his sternum. This passed, however, and he remained quiet, and, except for pain and tenderness about the shoulder, he continued comfortable through the 12th and 13th. Respiration 38; pulse 90.

January 14th. The patient complained of cough which "hurt" him, and of tenderness about the inferior angle of the scapula. Upon getting him up to examine the shoulder and chest, he had a fit of strangling cough. Auscultation discovered mucous râles over the left side, but the respiration was free throughout; pulse 80.

January 15th. The patient had several coughing fits during the morning, and at half past two o'clock P. M., in an unusually violent one, he coughed up the fragment.

He had afterwards, for three or four days, slight bronchitis with expectoration, at first tinged with blood; but January 20th he was well, except the contusion. At no time was there dyspnœa, nor was there evidence by auscultation of impeded respiration.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, JR., M.D.

HISTOLOGY.

Coloring Agents. — Were the object of coloring a microscopical preparation merely to render the different elements more distinct, or even were it to enable us to form some judgment as to the degree of vitality of certain parts of cells and fibres, we should not need to chronicle the introduction of new agents; but as the real desideratum is something that by its action will enable us to determine the nature of such bodies as it does or does not color, we welcome every addition to our slight knowledge in this respect.

Of all forms of tissue the connective is the most perplexing, owing to its universal distribution, and to its intimate relations with other tissues from which it frequently can hardly be distinguished, if at all.

Ranvier[1] claims to have found a coloring matter called purpurine which will be of great use in this respect. It is particularly applicable to the study of the central nervous system, from its property of coloring the nuclei of connective tissue cells and of leaving nervous elements unstained. To obtain this effect the cord should be hardened in bichromate of ammonia. The nuclei of cartilage cells, corneal corpuscles, and fixed cells of connective tissue in general are admirably shown. The substance is an extract of madder, and the fluid is made by adding it to a boiling solution of one part of alum and two hundred of water until some of the extract remains undissolved. The fluid is filtered while still hot into enough alcohol to form one quarter of the mixture. Only a small amount should be prepared at a time, as precipitation occurs in about a month, after which the staining properties are less active.

The color is a fine orange-red. From twenty-four to forty-eight hours are required for staining; most preparations are then mounted in glycerine, but sections of the cord are freed from water and rendered transparent *secundem artem*, and mounted in a solution of Canada balsam in chloroform.

Alferow[2] advocates the use of the lactate of silver instead of the nitrate. He recommends a solution of one part in eight hundred of distilled water, with the addition of a few drops of a concentrated solution of lactic acid. The presence of the free acid renders precipitation less easy, and the only formations that occur are the chloride and albuminate of silver. The formation of several disturbing precipitates is thus avoided. Alferow claims that the pictures are much clearer than those obtained by the nitrate, and that the lactate if applied to the mesentery of the living frog interferes less with the circulation. We may mention incidentally that this author denies the existence of stomata in blood-vessels and serous membranes, and states that solid particles traverse epithelial layers between the cells, which move to give them passage by some mechanism not yet understood.

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[1] Archives de Physiologie, No. 6, 1874.

[2] Archives de Physiologie, Nos. 4 and 5, 1874.

Gerlach, in an excellent monograph on the relations of nerve and voluntary muscular fibre in vertebrates, which we shall notice further on, gives some valuable directions for the use of silver, osmic acid, and gold. It is to be remembered that his directions apply only to this special branch of study. In speaking of silver he dwells on the fact (which is more or less true of all coloring matters) that its action is very different on living and on dead tissues. With muscles this is particularly important, as the acid reaction due to contraction interferes with the effect of the silver. He uses silver as follows: a little muscle is picked to pieces in a half of one per cent. solution of salt in water, and allowed to remain in this fluid eight or ten minutes, after which it is washed in distilled water, and transferred to the tenth of one per cent. solution of the nitrate of silver, to remain till it assumes a dull white color, which usually appears in about half a minute. The muscle is then again washed, and exposed in a moist chamber to direct sunlight if possible for five or ten minutes, or to diffused light for four times as long. It is then treated for three or four minutes with a mixture of one part of hydrochloric acid and one thousand of water. Silver, though having for the most part a purely superficial action, shows a series of white markings in the substance of the muscular fibre itself, which Gerlach is inclined to consider lymph spaces.

Osmic acid has a peculiar affinity for the white substance of the nerve fibre; no coagulation takes place, but the whole fibre appears as a black band. For tracing the general distribution of nerve fibres this agent is very serviceable. There are several methods of using it, but the following is the simplest and most generally applicable. Put the specimen for from four to eight minutes in a half of one per cent. solution of the acid, then wash it and mount it in a saturated solution of acetate of potash. Glycerine is not to be recommended.

For the finer nervous filaments gold is superior to anything else. Gerlach, in place of the simple salt, uses the chloride of gold and potassium dissolved in ten thousand parts of water with one part of chemically pure hydrochloric acid added to the solution. It is important to know that the action on muscles is modified by the length of time after death, and by the state of the muscle before death. The best results are obtained with muscle that is not perfectly fresh, but which is used before the development of cadaveric rigidity. For the frog the best time is from six to nine hours after death; in warm-blooded animals the examination must be made sooner. It seems also desirable that just before death the muscle should have been in a state of tetanic contraction. In the frog this is brought about by killing the animal by repeated blows on the head. Beale's more humane method of wrapping the frog tightly in a towel and dashing it to the ground would doubtless be equally advantageous. The extremity from which the muscle is to be taken should be separated at once. The specimen is kept ten or twelve hours in the gold solution protected from the light. It is then washed in slightly acidulated water and mounted in glycerine, to which a little hydrochloric acid has been added.

Shiefferdecker[1] describes some very beautiful sections that he had made of the cord of a dog and stained with chloride of gold or chloride of palladium. The former of these is particularly good for showing the net-work of minute fibres, while the latter shows the course of the larger ones very finely. The fresh cord, stripped of its membranes, was hardened by being kept for a month in Müller's fluid, and then for twenty-four hours in alcohol. The sections were washed for a day or two in distilled water. The solution of palladium was of the strength of one to ten thousand; that of gold, sometimes the same, sometimes twice as strong. The specimen was kept in the palladium till it became of a gray color, which occurred in from three to five hours; it was then washed in distilled water. Those specimens treated with gold were kept in till they became of a light violet, which took place in from one to three hours; they were then kept for a day in acidulated water. The specimens of both kinds were finally mounted in Canada balsam, after the regular course of alcohol and oil of cloves.

Ranvier[2] recommends weak alcohol as a substitute for chromic acid, Müller's fluid, and other hardening agents. He adds twice its volume of water to alcohol of 36° of Cartier's scale, that is, of about ninety per cent. This fluid renders the cells rather hard, the nuclei very plain, and at the same time dissolves the intercellular substance; hence it is very useful in the study of individual elements. It further has the merit of not interfering with the action of coloring agents.

Connective Tissue Cells. — Waldeyer[3] is the latest writer on the vexed question of these cells. About six years ago Ranvier revolutionized our ideas of connective tissue by his work on the structure of tendons; and opinions as to the structure and classification of cells are still very diverse. Putting wandering cells out of the question, Waldeyer describes two chief classes of connective tissue cells, each of which includes, of course, many varieties. The first kind embraces Ranvier's tendon cells, many of those of loose connective tissue, and the corneal corpuscles. Ranvier looks upon the cells named after him as plates more or less rolled up; but Waldeyer holds that they consist of several plates, the largest of which contains the nucleus and supports the others that radiate from it like the leaves of an open book. Several years ago Boll described a line in Ranvier's tendon cells which he called the "elastic stripe," and which, though generally attributed to some optical deception, has never been accounted for. Waldeyer believes that it depends on the position of the cell being such as to present the edge of one of the secondary plates to the eye of the observer.

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[1] Archiv für mikroskopische Anatomie, band x., heft 4, 1874.

[2] Archives de Physiologie, No. 6, 1874.

[3] Archiv für mikroskopische Anatomie, band xi., heft 1.

The other kind of cell described by this writer is already pretty well known. It is simply a large granular cell with a well-marked granular nucleus, and rarely showing amœboid movements.

Histology of the Joints.[1] — Our knowledge of the pathology of the joints is not very satisfactory and will hardly become so till more is known of their minute anatomy and physiology. We are inclined to think this paper a valuable contribution, though it must be very incomplete till another appears containing the author's researches concerning the lymphatic system, which he has not yet finished. He discusses first the endothelial lining, concerning the extent of which there has been much dispute. The author shows why nitrate of silver, usually so useful in detecting epithelium, is here not to be relied on. He represents the tissues inside a joint as in a state of great activity almost analogous to inflammation. New cells are constantly forming, old ones being thrown off to macerate in the synovia and apparently at last be absorbed. Now both the action of the fluid and the presence of the masses of dead cells interfere with the nitrate of silver and occasion very deceptive appearances. By means of Müller's fluid or the half per cent. salt solution the author has succeeded in removing a continuous layer of endothelium, lining the capsule, from under irregular masses of cast-off cells. He holds that this lines the capsule and the intra-articular ligaments, but is to be found only in spots on the cartilage; and it is to be noticed that these spots are parts not subjected to much rubbing or pressure. In some places more than one layer is to be seen. The inside of the tendon of the quadriceps extensor was sometimes found destitute of a cellular lining, and presented the further anomaly of cells very like those of cartilage lying on the inner side of the tendon. The author throws out the suggestion that these may have come from epithelial cells. The remarks on the structure of the capsule contain little new; from what has already been said it is evident that an endothelial layer always separates the capillaries from the cavity of the joint. Tillmanns divides the synovial folds or fringes into two classes: the true and the false. The true are covered with one or more layers of endothelium; they for the most part contain vessels, and are the scene of constant changes. They may be subdivided according to the tissue they contain into fibrous, mucous, and fatty. The false folds come from the cartilage; those near its edge may contain vessels and be covered with endothelium, but the others have neither.

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[1] Dr. Tillmanns. Archiv für mikroskopische Anatomie, band ix., heft 4.

The Termination of Nerves in Muscle.[1] — Gerlach, after a very interesting historical sketch and a detailed account of his methods, gives the conclusions to which he has come as to the ending of nerves in the voluntary muscles of vertebrates. He thinks the views concerning end plates entirely erroneous. The nerve enters the sarcolemma and subdividing is spread out as a network of most minute filaments throughout the whole substance of the fibre. Small nuclei, very much smaller than muscle corpuscles, are found in connection with the branches of the nerve. Gold often gives the muscle the appearance of being filled with minute black dots and lines very like the finest nervous fibrillæ, which seem to consist of lines of dots in apposition. It is certain that gold affects the two elements in precisely the same way, and Gerlach thinks he has seen them in communication one with another. He quotes with approval Kleinenberg's brilliant generalization that "muscles are the contractile terminal expansions of nerves."

(*To be concluded.*)

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

JAMES R. CHADWICK, M. D., SECRETARY.

JANUARY 30, 1875. DR. H. W. WILLIAMS, Vice-President, in the chair.

Entrance of Rain-Water Conductors into Sewers. — The secretary of the section of medical pathology, clinical medicine, and hygiene reported that a quorum had not been present at the meeting of the section called to consider this subject, and that consequently no action had been taken. The preamble and resolution presented by Dr. A. P. Richardson, which were referred back to this section at the last meeting, were as follows: —

Whereas, We believe that pure air is essential, not only for comfort and health but even for the protection of life itself, and that opening the drains for the reception of water-spouts from our dwellings will allow the escape of noxious gases, which, when diffused, will poison the atmosphere and make it unfit to breathe, causing blood-poison, exciting serious and unmanageable diseases, and increasing our death-rates;

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[1] Der Verhältniss der Nerven zu den willkürlichen Muskeln des Wirbelthiere. Professor Gerlach Leipzig. 1874. Pages 66.

Therefore, Resolved, That, as physicians of Boston and Fellows of the Suffolk District Medical Society, in behalf of ourselves, our families, our patients, and the community at large, we most decidedly remonstrate against this measure.

DR. H. I. BOWDITCH called upon MR. EDWARD S. PHILBRICK, civil engineer, who was present by invitation, to give his views as an expert upon the liability to the escape of noxious gases from the city sewers. This gentleman stated that he had been studying these matters for many years, and had recently been on a commission to devise a plan for the sewerage of one of our suburban towns. Sewers must not be too large, must have the proper inclination, and must be flushed. There is an exaggerated opinion as to the amount of gases that forms in the sewers; this is especially true of Boston, where the rain-fall is great, and where the sewers are generally well scoured. Under ordinary circumstances there is very little accumulation of gas. The amount of noxious gas depends largely upon the quantity of solid refuse which, lodging in the sewers, evolves the gases in its decomposition. The sewers may, however, be tide-locked, and then the air in them may suffer compression, and be driven back into our houses; this most commonly happens when the rain from a heavy shower suddenly fills the sewers, and the doors are at the same time closed by a high tide. To prevent the gases, thus forced back, from invading our houses through the water-closets and other drain-pipes, the sewers must be ventilated. This is most efficiently done by connecting the main sewers with the tall chimneys of manufactories, whereby not only will a vent be provided for the gases, but these will be literally sucked out by the great draught in the chimneys. There is no provision made in this city for the ventilation of the sewers except through the rain-water spouts. The opening of these spouts into the sewers would certainly allow the noxious vapors to escape, except at the time of a great rain-fail, when ventilation would be most needed; their action is therefore not always reliable. Sewers in some cities ventilate through the man-holes in the streets; a very offensive odor is then perceptible in the neighborhood. In other cities the gutter-holes are not trapped, and results similar to those above mentioned are obtained. The reason that gases enter the houses so readily is that the water-closet drains often have no traps, except under the seats. When outside traps exist, the air-column, even in the private soil-pipe itself, may often be subject to compression, owing to the introduction of water from bath-tubs, etc., so that the gas imprisoned between the traps would be forced into the house. On the other hand, this same air-column is often subject to tension, whereby a partial vacuum is created after the exit of water, and the upper traps are sucked dry and the house is thus exposed. The air in the soil-pipes and private drains is often much more foul than in the sewers themselves. There is no sure remedy for the evil, except ventilation of every outside trap and soil-pipe, to connect it with the normal atmospheric pressure; this is a certain and effectual means. The English devices are not always adapted to our climate.

The manner in which traps are ventilated by pipes running up the outside of houses was then demonstrated by diagrams upon the blackboard.

In reply to **Dr. A. P. Richardson**, **Mr. Philbrick** stated that special ventilating chimneys, unless fired, would not clean the sewers of gases, but would only relieve the pressure in the immediate vicinity. In Boston we have more than fifty separate outlets of sewers, to ventilate which an equal number of tall chimneys would be required. The question of ventilating the private drains was of the most vital importance, and was but imperfectly understood by plumbers and builders. The amount of poison entering our dwellings from such defects is certainly tenfold that which can ever come from opening rain spouts into street sewers.

Dr. Richardson asked if from twenty to thirty thousand holes in the sewers would not be injurious to the health of the citizens.

Mr. Philbrick thought not, among warehouses and manufactories, where most of the work was done in the lower stories, but that it would be so in dwelling-houses having windows for lodging-rooms over the eaves.

Dr. B. J. Jeffries suggested that the pressure in the sewers of Boston must be greater than it was some years ago. In his father's house, at No. 15 Chestnut Street, there had never been noxious gases until recently, when it had been found necessary to tap the top of the soil-pipe, and carry the ventilating shaft through the roof. In the Benedict Chambers in Spruce Street there are five water-closets one above the other. The plumbing in this building, Dr. Jeffries said, was perfect, but whenever water was poured down the slop-hopper in the attic, the water was sucked down from the five water-closets, and thus a way opened for the escape of gases into the rooms. This was corrected finally by breaking directly through the wall of the house, and introducing a lead pipe into the main waste pipe above the fifth water-closet.

Dr. H. I. Bowditch expressed the sentiment of all the Fellows present in thanking Dr. A. P. Richardson for having brought the subject before the society for discussion; in view, however, of the diversity of opinions held, it was evident that the matter was still *sub judice*, and he would therefore move that the whole matter be indefinitely postponed. This motion was carried.

Qualifications for Fellowship of District Societies. — The committee, consisting of Drs. J. R. Chadwick, J. J. Putnam, and H. Tuck, appointed to consider what measures, if any, the society will take to protect its interests with relation to the requisites for fellowship of the district societies, offered the following preambles and resolution: —

Whereas, Article XII. of the By-Laws and Digest XII. of the Acts of the Commonwealth specify that a district medical society shall "consist of all the Fellows of the State Society *residing* within the district and none other;"

Whereas, Either a literal or a legal definition of the term "reside," in the above places, would operate very prejudicially to the interests of this district society in excluding from fellowship certain Fellows of the State Society who practice medicine exclusively or mainly in this district, but prefer from one motive or another to reside within a different district, whereby this district loses several representatives on the board of council;

Whereas, The signification of the term "reside" was equivalent to that of "practise" when the By-Laws were framed, because the custom of having an office for consultation away from the dwelling-house was then unknown; and inasmuch as the By-Laws consider us only in our professional relations, it seems evident that no qualification for fellowship of a district society was intended to be established except upon a strictly professional basis;

Therefore, Resolved, That the Suffolk District Society shall appeal, through its president, to the Councillors of the Massachusetts Medical Society, at their next meeting, for such a definition of the term "reside," as it occurs in Article XII. of the By-Laws and Digest XII. of the Acts, as shall in their judgment be just and equitable to all district societies.

The resolutions were adopted.

Ovariotomy. — DR. CHADWICK reported a case of successful ovariotomy, which will be published in full.

The Death-Rate of Boston and its Suburbs. — DR. M. B. LEONARD read the results of some very thorough investigations into the mortality of East Boston, by which the high rate at certain seasons was traced to contamination of the Mystic water. The paper appeared in the last issue of the JOURNAL.

A Caution concerning Ether. — DR. H. I. BOWDITCH wished to utter a caution against administering ether for the purpose of making a permanent opening in the chest. A patient upon whom he had operated that day had suddenly turned livid when the pleura between the ninth and tenth ribs was reached, and he was with extreme difficulty resuscitated. Dr. Bowditch had now seen dangerous symptoms in four cases, and in one instance death had resulted.

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A NEW UNIVERSITY.

ONE would hardly be expected to rejoice greatly over an addition to the already pretty long list of institutions of learning bearing the title of university which are scattered over the country; but if accounts be true our countrymen have every reason to be grateful to the late Johns Hopkins, whose munificent bequest has put it in the power of Baltimore to found a university on a scale such as has not hitherto been attempted in this country.

According to the *Philadelphia Medical Times*, Mr. Hopkins has left $3,500,000 for the endowment of a university, and a similar sum for the foundation of a hospital in connection with it. Most fortunately this large fund is in the hands of men who apparently appreciate the responsibility of the trust and the needs of the hour. Realizing the necessity in this country of a higher standard of education than most of our universities possess, they have consulted with an expert whose advice was that these funds should be employed to promote "scholarship of the first order, and this by only offering the kind of instruction to advanced students which other universities offer in their post-graduate courses, and leaving the kind of work now done by under-graduates to be done elsewhere. For this purpose he would select as professors men now standing in the front rank in their own fields; he would pay them well enough to leave them at their ease as regards the commoner and coarser cares; would give them only students who were far enough advanced to keep them constantly stimulated to the highest point; and he would exact from them yearly proof of the diligent and fruitful cultivation of their specialties by compelling them to print somewhere the results of their researches."

The character of the instruction given by most of our universities, although it may be excellent so far as it goes, leaves untouched a wide field in the higher departments of education which it has been thought necessary hitherto to include in the college course. To furnish an education of a tolerable degree of excellence and of a good practical character is about all that has been demanded of any American university. We have been content to leave the scientific work to the schools of the Old World; and those whose tastes and abilities lead them beyond the well-trodden paths of study receive little encouragement from those who have charge of the education of American youth. This is particularly true of medicine. A seat of learning which will not only undertake to give a good medical education, but will also make it possible for our best men to devote their lives to teaching and scientific work will be surely a novelty with us, and will, we doubt not, be highly appreciated by the American medical profession. We earnestly hope that the good intentions of the trustees may be most satisfactorily carried out.

SCHOOL AGE AND SCHOOL HOURS.

Any child who is five years old may enter the lowest or primary schools of Boston. The limit of age was formerly lower. The school board are asked to fix it hereafter at six years. It is further requested that from this date children under nine years shall have only three hours of daily school work, divided into two equal parts by a recess of thirty minutes. There would then be but one session each day for scholars of this age, beginning at nine o'clock and ending at half past twelve. These proposals will be discussed at a public hearing in the City Hall on Wednesday, the 10th of March, at four o'clock.

The abstract question whether children of four years, or of three, are too young to be taught is not under consideration; it is only asked whether those less than six years old can well undertake the work of such schools as we now have. It is understood that the committee in charge greatly desire medical testimony as to the value and importance of these changes. Are there not members of the medical profession who will take the trouble to attend this hearing, and to give these gentlemen the benefit of their opinions and experience?

It is evident that the plan described must meet a great deal of earnest and honest resistance. Teachers who find the hours now allotted scant enough will hardly admit that equally good results can be obtained with less time. A minority of thoughtful parents may see, as many already do, the wisdom of keeping children out of school till six years, but a far larger number will regret the not being able to put boys and girls of five years safely out of harm's way.

We venture to predict that, if these changes be made, the intellectual results at nine years will be better than the present plan gives. Our Swiss fellow-republicans admit children to the lowest schools at six years; keep them in those schools till nine years; make the hours of study in each week eighteen for the first year, and nineteen hours and twenty subsequently. In North Germany school begins at seven years. To children of this tender age it will be no slight gain to go in the inclement months only once to school and back. Fortunately the plan involves no new outlay of money, but ought on the contrary to prove a real economy.

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MEDICAL CERTIFICATES OF DEATH.

We have been favored, through the courtesy of Mr. Ernest Hart, of London, with a copy of the certificate-blank now used in Great Britain under the Registration Act of 1874. Inasmuch as this form of certificate represents the fruit of an extended experience in such matters, and as it exhibits many features in striking contrast with the formula generally used by American physicians in certifying the causes of death, we think our readers will be glad to see a fac-simile of the English blank: —

BIRTHS AND DEATHS REGISTRATION ACT, 1874.

MEDICAL CERTIFICATE of the CAUSE of DEATH.

[To be given by the Medical Attendant to the Person whose duty it is to give Information of the Death to the Registrar.]

I HEREBY CERTIFY *that I attended*____________________ *whose age was stated to be*__________ *; that I last saw h*____ *on the*______ *day of* ______________18____ *; that he Died* *____________ *on the*______ *day of* ______________18____, *at*____________________ *; and that to the best of my knowledge and belief the Cause of h*____ *death was as hereunder written.*

Cause of Death.	Duration of Disease. †			
	Years.	Months.	Days.	Hours.
(*a*) Primary				
(*b*) Secondary				
(*c*)				

* Should the Medical Attendant not feel justified in taking upon himself the responsibility of certifying the *fact* of Death, he may here insert the words "*as I am informed.*"

† The duration of each form of Disease or Symptom is reckoned from its commencement until death occurs.

*Witness my hand, this*______ *day of*____________ 18____.

*Signature*____________________

*Registered Qualification*________________

*Residence*____________________

N. B. — THIS CERTIFICATE IS INTENDED SOLELY FOR THE USE OF THE REGISTRAR, to whom it should be delivered by the Person giving information to him of the particulars required by law to be registered concerning the Death. *Penalty of £2 for neglect of Informant to deliver this Certificate to Registrar.*

*** The Registrar General *cautions all persons* against *accepting* or *using* this certificate for any purpose whatever except that of delivering it to the Registrar.

Upon the back of the blank are printed extracts from the Registration Act giving specific directions, for the information of the medical practitioner, concerning the certificate and its proper disposal. Each of the blanks has a counterfoil upon which the physician may record, for his own use, the facts to which he certifies. A number of the blanks are bound together in a book, and are supplied in that shape to the registered practitioners of the kingdom.

An examination of the above fac-simile will discover the fact that certain features which have proved objectionable to many in the certificate ordinarily in use in this country have been avoided. The medical practitioner in Massachusetts is called on to certify that the person designated died on the specified day, at an age which is defined in years, months, and days; then, as if it were an afterthought, and not necessarily essential to the certificate, is a blank space by itself for the "cause of death." The British way, although more clumsy, is less open to criticism; for by that the attendant is not made to certify concerning facts of which he may have no positive knowledge. For example, the certifier may be spared the responsibility of asserting the *fact* of death in a given case — a saving clause may be used; so, again, the cause of death is written as according to the best of the attendant's knowledge and belief.

We observe that certificates are accepted, under the new British law, from registered physicians only; how the deaths which occur under the charge of irregular practitioners, medical assistants, midwives, and so on are accounted for, is not apparent.

On the whole, we find very much to commend in the English form; although it is somewhat more complicated than the one to which we are accustomed, it will obviously fulfill the object of obtaining just the facts desired for registration without compelling the medical attendant to certify falsely or ignorantly.

SURGICAL OPERATIONS AT THE MASSACHUSETTS GENERAL HOSPITAL.

[SERVICE OF DRS. BIGELOW AND CABOT.]

OPERATIONS were performed under ether in the following cases during the two weeks ending February 20: —

1. Vesico-vaginal fistula. 2. Dislocation of shoulder. 3. Abscess (7 cases). 4. Stricture of rectum. 5. Phimosis. 6. Fistula in ano (2 cases). 7. Abscess of mastoid cells. 8. Dislocation of shoulder (3 weeks' duration). 9. Cancerous tumors of thigh and groin. 10. Hæmatocele of tunica vaginalis. 11. Dislocation of elbow. 12. Stricture of urethra. 13. Vascular urethral tumor. 14. Strangulated femoral hernia (twenty-four hours' duration; reduced by taxis). 15. Stone in the bladder. 16. Ovariotomy. 17. Club foot. 18. Cancer of lip. 19. Hydrocele (2 cases). 20. Felon (2 cases). 21. Hæmorrhoids. 22. Epithelial growth on foot. 23. Condylomata. 24. Necrosis of humerus. 25. Foreign body in pharynx (fish-bone). 26. Painful cicatrix of hand, from old injury. 27. Ingrowing toe-nail (2 cases).

4. *Stricture of Rectum.* — The patient was a middle-aged man with a history of specific disease; he entered the hospital with a stricture near the external sphincter admitting the little finger. This was dilated with a valved speculum

until it admitted the largest-sized bougie; the patient was directed to continue the use of bougies for several months.

7. *Abscess of Mastoid Cells.* — The patient, a male adult, had suffered for two weeks from pain in the ear with purulent discharge. Four days before entrance a swelling accompanied with pain appeared on the mastoid process. Dr. Cabot cut down upon and trephined the latter; on the removal of the disk of bone, pus flowed freely.

10. *Hæmatocele of Tunica Vaginalis.* — A man forty years of age received, fifteen years ago, a violent blow upon the testicle, followed by inflammatory swelling which did not wholly subside. Within three years the mass had rapidly enlarged until it had attained the present size, being now seven or eight inches in diameter, of an oval shape, and actively inflamed upon its anterior aspect; the whole being suggestive of malignant disease approaching the surface. The enlargement was accompanied with pain. Dr. Cabot incised the mass, which proved to contain at its centre an old coagulum surrounded by walls several inches thick, in which the testicle was embedded. The whole mass was excised.

13. *Vascular Urethral Tumor.* — A woman thirty-five years of age had suffered exquisite pain in micturition during the last five years. On examination a not unusual vascular tumor was found at the mouth of the urethra, lobulated, red, with pediculated attachments, and bleeding when touched. The patient said that it had been excised a year or two before; it was now again excised, and the remaining wound cauterized by Dr. Bigelow. This was a pronounced case of the ordinary painful vascular tumor at the mouth of the female urethra. Dr. Blodgett, after a careful examination, had found that the mass consisted of the ordinary material of exuberant granulations only. Their excessive sensibility is probably due to the inflamed and irritable condition of the surface bathed by urine rather than to any special nervous structure. The reporter has observed a similar exquisite sensibility in a small raspberry-like excrescence of a year's duration just within the male urethra, while a number of common venereal warts were seated upon the gland. After the ineffectual application of nitrate of silver, it yielded to chromic acid.

15. *Stone in the Bladder.* — A little boy, five years old, had entered the hospital for alleged phimosis; placed under ether upon the operating table, it was discovered that the prepuce could be easily retracted. Its elongation, together with a urinary incontinence, then first mentioned, led to a suspicion of stone, which was readily detected by sounding, and removed by the lateral method. It proved to be of unusual size for a child so young, weighing five hundred and sixty-six grains. It lay at the fundus of the bladder, which firmly grasped its upper half, so that while the exposed half of the stone presented a usual appearance, the upper half was covered with minute and slender asperities, which seemed to be casts of the interstices of a granulated mucous membrane. While the lower half was rounded, the upper half was abruptly beveled to an acute edge. In withdrawing the stone, the adherent fundus of the bladder followed it into the incision like an inverted hat-lining, and was carefully pushed back. Dr. Bigelow said that lithotomy was a simple operation if the following points were observed: First, a free external incision; second, dilatation, when necessary, of the vesical incision by the forefingers placed back

to back; third, the point of the knife never to be removed from the staff, when it has once reached it behind the bulb, until it has been carried into the bladder, — if it be removed when the incision is half made, it is impossible again to find the same aperture; fourth, after the incision is made something should be persistently kept in the bladder until the stone is finally extracted, in order that the passage may not be missed and the walls lacerated by futile attempts to find it again. Thus, in a common operation, the staff remains in the bladder, while the knife, the finger or sound, and possibly the forceps, successively replace each other. If the forceps are removed for any cause, without the stone, they should be carefully replaced by the forefinger of the left hand, as a guide for their re-introduction. The boy immediately entered upon a rapid convalescence after the operation.

16. A detailed report of this case will be published in a future number.

H. H. A. Beach, M. D., Surgeon to Out-Patients.

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SURGICAL OPERATIONS AT THE BOSTON CITY HOSPITAL.

[SERVICE OF DRS. CHEEVER, THORNDIKE, AND WADSWORTH.]

The following operations were performed on February 12 and 19, 1875: —

1. Fistula in ano. 2. Amputation of fingers. 3. Radical operation on hydrocele of the cord. 4. Re-amputation of arm. 5. Stricture by Holt's dilator. 6. Canthoplasty (three operations). 7. Exploration of thyroid tumor. 8. Lupus by galvano-cautery. 9. Condylomata by galvano-cautery. 10. Caries of the tarsus. 11. Cystic tumor of neck. 12. Iridectomy. 13. Tonsillotomy.

3. *Operation for Radical Cure of Hydrocele of the Cord.* — The patient is about seven years old. The cyst is an inch in diameter. It has been punctured and blistered without any permanent effect. Dr. Cheever again drew off the serum, and injected about a drachm of pure tincture of iodine, allowing it to remain in the sac.

4. *Re-Amputation of Arm.* — The patient is the young man who received compound and comminuted fractures of the skull and left arm and leg, last October. The arm and leg were amputated at the time; the former at the knee-joint, and the latter in the fore-arm, at the junction of the middle and lower thirds. The thigh has been re-amputated twice for sloughing and retraction of flaps, and the patient now has a very good stump.

The arm-stump is conical and tender. The tissues covering the ends of the radius and ulna are red, thin, and closely adherent to the bones. Dr. Thorndike dissected back the soft parts, and removed two inches of the radius and ulna. The flaps were ample to cover the bones, and they were closed with silk sutures.

7. *Exploration of a Thyroid Tumor.* — The patient is a man fifty years of age. He first noticed a small tumor on the right side of the neck, near the thyroid cartilage, fifteen years ago. It grew slowly, and gave him no particular trouble, till about six months ago. Since that time it has increased rapidly in

size, and has pained him a good deal. He continued his occupation as a laborer until within a few weeks.

The tumor extends from a point a little to the left of the median line, round on to the right side, apparently external to the right sterno-cleido-mastoid muscle. Its largest diameter is about eight inches. It is lobulated, firm, and indistinctly fluctuating in the centre. It is only slightly movable, and does not rise and fall with the larynx. The skin over it is red but not thickened nor adherent. The larynx and upper part of the trachea are displaced two inches to the left. The growth also projects into the fauces. The voice is husky. The patient has had several attacks of spasm of the glottis, and has constant dyspnœa; he swallows with difficulty; his skin is tawny and he has an anxious countenance.

Dr. Thorndike explored the growth with the aspirator, with the effect of obtaining only a little blood. The question of an attempt at removal is under consideration.

10. *Caries of the Tarsus.* — This was a case of long neglected disease of the foot in a child six years of age. There were five sinuses leading down to diseased bone. The child was etherized, and the operation performed by Dr. Cheever. The hæmorrhage was controlled perfectly by Esmarch's method. The sinuses were enlarged, and almost the whole tarsus was found to be diseased. As the parents refused an amputation, to remove the diseased bones piecemeal was the only alternative.

Two long, horizontal openings were made on the inner and outer aspects of the tarsus; well back on the os calcis on the outside, and from the tubercle of the scaphoid forwards to the first metatarsal on the inside of the foot. The entire mass of vessels, nerves, and muscles, both on the dorsal and the plantar aspect of the tarsus, was peeled away from the bones with a blunt periosteum scraper. Through these two openings every bone of the tarsus except the astragalus was removed. The ankle-joint was not opened. The great cavity left between the astragalus and the heads of the metatarsal bones was then temporarily packed with two small compresses filled with minutely broken sponges, and the foot bandaged with a dry cotton roller. The rubber tubing was then taken off, and the whole hæmorrhage, from beginning to end, did not exceed two drachms. Suppuration was established in forty-eight hours, and the packing was removed without pain or bleeding.

Quite a number of cases of removal of the tarsus have resulted in a good foot; notably some recently reported by Dr. Patrick H. Watson, of Edinburgh.

Geo. W. Gay, M. D.

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LETTER FROM VIENNA.

Messrs. Editors, — In connection with my letter about Lyons, I will merely mention that the French Assembly has voted Faculties for both Lyons and Bordeaux. It will now be interesting to see who will be named professors. If MM. Ollier and Chauveau are not among them, the reason will probably be that these gentlemen are not sufficiently orthodox to suit the clerical party.

But my present object in writing is to touch on a few matters in Berlin and Vienna. Through the kindness of one of the directors, Dr. Trendelenburg, I was enabled to visit very thoroughly the new City Hospital, which has been open but a few months for the reception of patients. This hospital struck me as being so admirable, that a short account of it may not be uninteresting to your readers.

It is situated on — for Berlin — high land, at the extreme east end of the city; it consists of an administration building, twelve pavilions for patients, a kitchen and laundry, an autopsy and museum building, and a small building almost luxuriously fitted up for Turkish and Russian baths. These buildings are all of brick, neatly trimmed, and far enough separated from each other to allow each the full benefit of light and air. Of the twelve pavilions eight are two-storied and intended for medical cases, while the other four are one-storied, and reserved for surgical cases. Each pavilion has its own heating apparatus. Fresh air, supplied through a tunnel communicating with the outer air at several rods' distance from each pavilion, is warmed in its passage to the wards by contact with hot water pipes. Ventilation is secured by a wooden draught chimney and double roof. The wards are wide and are floored with tiles; the walls are thickly painted and have high windows which, however, are double; the beds are well separated.

Each ward has ample accommodations for water-closets and simple hot and cold baths, besides a light and airy room to serve as a convalescent dining and sitting room. The pavilions and kitchen are connected by asphalt uncovered walks, and the food is conveyed in little iron hand-carts, provision being made for keeping it warm in transit. The hospital is calculated for six hundred patients, and will not be made use of for clinical purposes. The physicians in charge must do everything themselves, even to writing out the histories of the cases; to enable them to do this, they are provided with rooms and board in the hospital, and receive an annual salary of several hundred thalers.

The day on which I visited the institution was sufficiently cold and raw, but the ventilation and temperature of the wards were admirable. Altogether it is a hospital of which Berlin may well be proud. The surgical pavilions would be better, perhaps, in wood or some cheap material; but if they demolish and rebuild them every few years, the tax-payers only have a right to complain.

This semester Professor Traube gives no instruction, his health not being very good, it is said. His place is taken by his son-in-law, Dr. Fraentzel. Never having heard Traube lecture I cannot compare the two men; but Fraentzel impressed me very favorably indeed, and I was very glad to see that he recognized the part which the French have played in bringing medicine to the point which it now occupies. I think that it is too often forgotten both in Germany and in Austria.

Two cases which I saw in Fraentzel's service were so interesting to me that I cannot forbear giving them a few words. A comatose man was brought into the hospital one Sunday afternoon by the police, who had found him in a freight car on a siding of one of the railways. His temperature was taken, both in the axilla and in the rectum, at least two thermometers being used, and found to be

24.4° C. (76° F.)! Twelve hours later it had come up to 33° C. (91° F.), and not very long after the man came to his senses, and said that Saturday afternoon he was on a spree, and was *conscious* of having drank *three champagne bottles full of brandy!* He must then have wandered about till he laid himself down in the empty freight car in which he was found twenty-four hours later. He recovered entirely.

The other case was similar. A man was discovered by the police in one of the public gardens, unconscious. His temperature on entrance was 24. 2° C., and twelve hours later, when I saw him, he was still unconscious, with a temperature of 26.2° C. The reaction being so slight a bad prognosis was made for him, but I left Berlin too soon to hear the result. That he also had had a large dose of alcohol is highly probable, but the fact could not be definitely ascertained. Fraentzel says that schnapps-drinking increases every year among the lower classes, and that every day-laborer who enters the hospital can be set down as a "potator" without hesitation. I saw the straps in use a number of times in the wards.

Here in Vienna there is not very much new. The filling of the chair of pathology and pathological anatomy is still unsettled, though a step was taken by the Faculty at their meeting a few nights ago. Klob and Kundrat (the former prosector at the Rudolf's Stiftung, and with a practice, it is said, of ten thousand dollars a year, which he agrees to give up; and the latter assistant to Rokitansky) are recommended to the minister, by a majority of two out of twenty-eight, as "provisional professors" for two or three years. Both the *Wochenschrift* and the *Presse* protest against the nominations. The former says that from Recklinghausen to Kundrat is too great a leap, and both papers think it likely that the minister will refuse to concur.

The Langer-Benedikt affair is not very new, but may not be known to many of your readers. In short, it is this: Professor Benedikt wrote a very abusive letter about Professor Langer — at that time dean of the faculty — to a second-rate daily paper on account of a supposed injury which the dean had done him. In consequence of this the academical senate recommended the minister of public instruction to deprive Professor Benedikt of his professorship. But the minister decided to let him off with "a sharp reprimand," which the academical senate was instructed to administer to him. The senate, however, says that the minister constitutes a court of appeal which has set aside its sentence, that it does not know what is meant by "a sharp reprimand," and that the minister must deliver his own sentences. So Professor Benedikt remains. This is not the only instance of late where the lay press has been made a vehicle of purely professional matters. During my stay in Vienna I have heard more than once of the profession in America being reproached with being absorbed in pecuniary rather than scientific advance; but I have yet to hear of a professor in a school of any standing attacking a colleague in the daily press.

The question of medical fees has been attracting a great deal of attention of late, and as it offers some points of interest I will try to bring them out in another letter. Respectfully yours, FREDERICK C. SHATTUCK.

VIENNA, *January* 12, 1875.

SHOULD PRINTED LINES BE SHORT?

Messrs. Editors, — I am very much obliged to you for Dr. Holmes's article on rhythm and respiration; I had been specially desirous of seeing it. It is very curious, and may yet be developed in ways beyond any he has spoken of.

There is another subject I wish some one would take up and report upon; and that is the length of printed line required for the easiest reading. I suppose it will be admitted that if the New York *Times* or *Tribune*, the Boston *Post* or *Advertiser*, should widen its columns to the length of ten or fifteen inches, it would, in a short time, lose all its readers. If you undertake to read a page of the *North American Review*, and then one of *Littell's Living Age*, you will find the latter much the easier reading. Or, to make the comparison more effectual, suppose you read a page of one of the English reviews and then a page of the same article in the American review, the former having lines of five or six inches in length, the latter not much more than half as long. Or consider more particularly the great difficulty in reading legal documents, insurance policies, gubernatorial proclamations, college diplomas, and the like, the lines of which may be twelve inches, twenty inches, or two feet long; no one reads such papers if he can help it.

And the reason is the necessity of moving the head on its axis, to turn the eyes from the left to the right, and *vice versâ;* but still more, and what is a vastly greater evil, the constant demand on the eye to change its focus in order to accord with the varying distance from the eye to the extremes and the middle of the line. Some persons would perhaps deny that any such inconvenience is experienced. These persons have probably considered very carelessly their own sensations, and make very little allowance for those of others. Such persons, too, have very likely paid little attention to the reason why some print is less attractive than other print. But after a good deal of observation, I am persuaded that it is important, for physiological reasons, to keep short the lines of the newspaper, and to induce the publishers of magazines, and of all octavo volumes whose type is as small as bourgeois or nonpareil, to print two columns on a page.

Some sense of this difficulty to the eye is probably the reason why commercial note paper and other smaller sizes have taken the place of letter and cap size; though the sense may have been too slight to make a clear impression on the consciousness. We know that small inconveniences are really great obstructions. The postal card owes very much of its popularity to the superior convenience it possesses over the form of letter which requires folding, enveloping, and stamping. The world at large may not know the reason, and might be slow to admit that the writing and fitting a letter for the post-office entailed any inconvenience whatsoever; but the fact that letters will not be written, and postal cards will be, shows that people feel the inconvenience.

And the long lines of print are so serious an inconvenience, involving indeed so much injury to the organs of sight, it seems to me that benevolent ophthalmologists ought to do something to attract the attention of publishers and printers, and give some help and relief to persons of my age and feebleness of vision. Yours truly, E. B.

Deerfield, *January* 29, 1875.

WEEKLY BULLETIN OF PREVALENT DISEASES.

THE following is a bulletin of the diseases prevalent in Massachusetts during the week ending February 27, 1875, compiled under the authority of the State Board of Health from the returns of physicians representing all sections of the State: —

In Berkshire: influenza, bronchitis, pneumonia, and rheumatism.

In the Connecticut Valley: influenza, bronchitis, pneumonia, and rheumatism. Small-pox is in Holyoke, and cerebro-spinal meningitis is in Orange.

In Worcester County: bronchitis, measles, pneumonia, scarlatina, influenza, and rheumatism. Measles and scarlatina have increased in prevalence.

In Middlesex and Essex: influenza, bronchitis, pneumonia, scarlatina, rheumatism, and measles. Cases of diphtheria in Wakefield are still reported.

In Boston and its suburbs: bronchitis, measles, pneumonia, rheumatism, influenza, and scarlatina. The epidemic of influenza, which reached its maximum two weeks ago, now appears to be subsiding.

In the Southeastern counties and among the islands: bronchitis, influenza, pneumonia, whooping-cough, and rheumatism.

It will be observed that throughout the State the diseases of the respiratory organs — bronchitis, influenza, and pneumonia — maintain their place at the head of the list of prevalent diseases. There is an increased prevalence of pneumonia, rheumatism, and scarlatina; measles remains as at last report; all other diseases show a diminished prevalence. The type of all the diseases is reported generally as mild.

Measles has its field of maximum prevalence in Suffolk; scarlatina in Worcester; diphtheria in the Connecticut Valley and in Essex.

F. W. DRAPER, M. D., Registrar.

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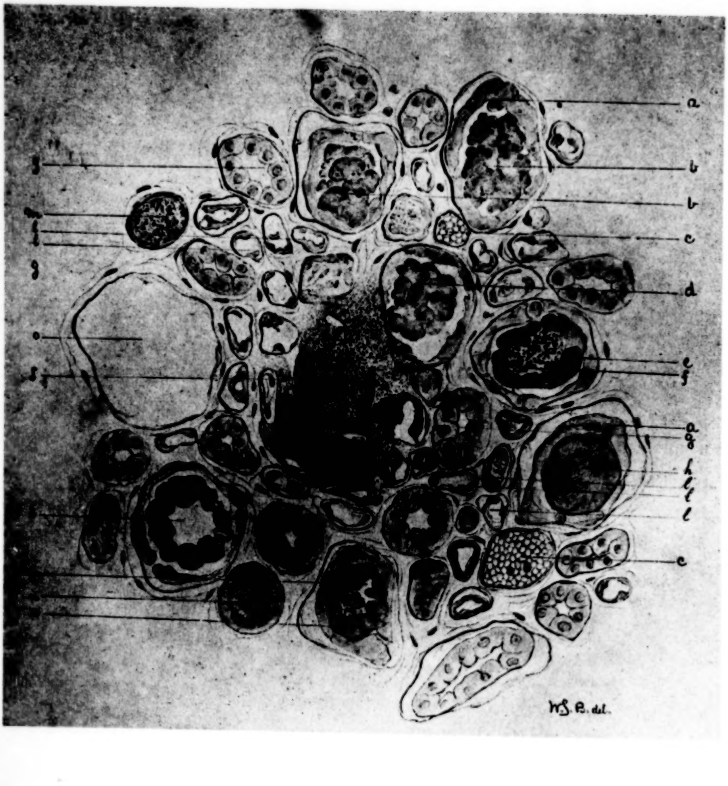
COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING FEBRUARY 20, 1875.

	Estimated Population.	Total Mortality for the Week.	Annual Death-rate per 1000 during Week.
New York	1,040,000	627	31
Philadelphia	775,000	339	23
Brooklyn	450,000	202	23
Boston	350,000	175	26
Providence	100,000	38	20
Worcester	50,000	17	18
Lowell	50,000	20	21
Cambridge	44,000	17	20
Fall River	34,200	14	21
Lawrence	33,000	19	30
Springfield	33,000	7	11
Lynn	28,000	17	32
Salem	26,000	8	16



W.S.B. del.